

**Applicant:** Meggiolan  
**Application No.:** 10/073,405

### REMARKS

The Amendment amends claims 1, 2, 4-6, 9, 15, 16, 39, 46, 48, and 50-52. and adds claim 53. Claims 1-19, 24-39, 46, 48, and 50-53 are currently pending.

The Action rejected the claims under 35 U.S.C. § 112 and as obvious under § 103. The above amendments and below arguments address these rejections.

#### Rejection Under 35 U.S.C. § 112

The Action rejected claims 5-7, 46, 51, and 52 under 35 U.S.C. 112. The Amendment amends the claims in response to the rejection, specifically, changing the units in claims 5-7 and 46 and clarifying the language in claims 51 and 52.

#### Rejection Under 35 U.S.C. § 103

The above Amendment and below arguments address the obviousness rejection, on two grounds. First, the reference combination is improper. Second, the references do not show what is now claimed.

#### *The References Are Improperly Combined*

The Action rejected claims 1-14, 16-19, 24-39, 46, 48, and 50 as obvious over U.S. Pat. No. 5,246,275 to Arredondo in view of U.S. Pat. No. 2,794,481 to Anderson. Arredondo shows a method for producing a lightweight wheel using an inflatable mandrel 70. Composite material is placed over the mandrel and then the mandrel is inflated inside a mold. The air-inflatable expansion compresses the material against the inner surfaces of the mold. Col. 12, lines 36-53. Following the inflation of the

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mandrel, the mold, composite, and mandrel is placed in an oven and heated. Col. 12, lines 58-60. Anderson shows an apparatus for making fiber-reinforced resin tubing. Anderson is not directed at bicycle wheel hubs or molded products.

The combination of these references is improper because Anderson clearly teaches away from Arredondo. A reference teaches away from another reference when "a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference." *In re Gurley*, 27 F.3d 551, 553 [31 USPQ2d 1130] (Fed. Cir. 1994). Anderson teaches away in at least two instances. First, Anderson describes the inflatable bladders of Arredondo as "cumbersome and a source of trouble in operation." Col. 1, lines 51-55. This disparaging comment would discourage a person of ordinary skill in the art from combining the references. Second, Anderson not only does not suggest the use of a mold combined with an expanding mandrel, and it teaches away from such a use because pressure applied to the resins could create abrasions and areas of weakness. Col. 1, lines 48-9.<sup>1</sup>

The Action specifically states that a "fair reading" of Anderson suggests "the use of a solid, expandable core, in place of an inflatable core." The key to that statement about the prior art is "in place of," which admits that the solid cores and

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<sup>1</sup> The Action also notes this "teaching away." The Action states that Anderson eliminates "the problems commonly associated with inflatable cores/bladders." which is an admission of teaching away.

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inflatable cores are mutually exclusive in the Anderson reference. This bolsters the conclusion that Anderson teaches away from Arredondo.

The references are also not properly combined because they are irrelevant to the application's bicycle wheel hubs, which have critical weight bearing and structural design criteria. The prior art references are not directed to such weight bearing and structural criteria in the cited patents.

Since Anderson alone does not teach many of the features claimed, and since the combination is improper, claims 1-14, 16-19, 24-39, 46, 48, and 50-53, as presented, are patentable.

*The References Do Not Show What Is Now Claimed*

Arredondo does not teach or suggest what is claimed in claim 1 (and claims 46 and 48) for at least two reasons. First, Arredondo does not show the step of "expanding the core due to the temperature increasing step, which applies a pressure on the tubular body against the inside the mold" in claim 1.<sup>2</sup> In Arredondo, the core expands due to the *inflation* of the core, not the temperature expansion as claimed. Second, in Arredondo, the core expansion step *precedes* the step of heating the mold, which is the opposite of what is claimed. As claimed, the core expands due to the temperature increase; thus core expansion and temperature increase are substantially simultaneous as claimed. (See, for example, claim 2: "Method

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<sup>2</sup> Claims 46 and 48 claim variations of this language.

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according to claim 1, wherein the increase of temperature of the mould and the expansion of the core occur substantially simultaneously.") Claims 2-19, 24-39, and 50-53 all depend from claim 1, and are thus allowable for the same reasons. Further claim 53's claimed tubular body expansion and its relationship with the end flanges is not anticipated or obvious. Claims 46 and 48 claims variations of claim 1, and are allowable for the reasons discussed above.

Even when Arredondo is combined with Anderson, Anderson does not cure these defects, because Anderson does not suggest heating a mold, or the arrangement of steps for use with an expanding core and mold.

The Action still provides no support for its argument that the shapes of the core are obvious. The Action admits that the claimed shapes are not shown in Arredondo, which only shows a wheel core with a hole through its center- not a hub core as claimed. Regarding claims 14-19 specifically, Neither Arredondo nor Anderson teach or suggest the claimed core shapes, which are critical to form the hub.

Claims 24-39 and 48 are similarly not suggested in Arredondo. In particular though, the advantageous cuttings that allow for a more uniform covering of the core are not shown in Arredondo. These shapes are specifically advantageous for the hub shape and would not be useful in Arredondo's wheel. (See Application Figure 3 with triangular cutouts which would have no advantage in Arredondo.) Arredondo's

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statement that "fiber mats can be cut to any desired shape (Col. 13, lines 65-66) teaches no shapes, and certainly not the claimed shapes. Further, as to the Action's statement that Arredondo Table 1 teaches how to orient fibers on a hub, it does not. Table 1 teaches only orientation on a *wheel*, and would be inapplicable to the claimed hub.


Minor amendments to several of the claims clarify British usage.

For the above reasons, Applicant respectfully submits that the presently claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested. If the Examiner believes that a telephone conference, telephonically, or in person, would advance the prosecution of this application, please contact the undersigned to arrange such a conference.

Respectfully submitted,

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